Change and Developments in Education and Training in China

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Because of economic reforms, membership of the WTO and globalisation, China needs a better-educated workforce. The aim of this paper is to describe the developments in education and training in China that are the consequences of these economic reforms by means of a short literature review.

Keywords: Education, Training, Change

China has a population of 1.3 billion people. The workforce population (aged 15-64) has grown from 383 million people in 1964 to about 880 million people at this moment. It is expected that this development will continue till 2010 and that the workforce will decline after 2010 (Hemelryk Donald & Benewick, 2005). China has the largest workforce participation rate in the world (male 96 per cent, female 80 per cent). This means that a lot of children have dropped out of school, and a lot of urban children have lost the opportunity to continue their education after following high school (Xie & Wu, 2001).

After three decades of the Cultural Revolution of Mao, and two years after his death, the new leader of China, Deng Xiaoping, initiated economic reforms, the 'open door policy' (*kaifang zhengce*), and the 'four modernizations': modernisation of agriculture, modernisation of industry, modernisation of science and technology and modernisation of national defence, in 1978. Economic reforms in China involved the breakdown of the planned economy and a transition to a more market-oriented economy (Gittings, 2005). Since 1980 the People's Republic of China (further PRC) has gradually opened its local markets to multinational companies (MNCs) in 14 coastal cities, that have been declared special economic zones. In 2001 China became member of the World Trade Organisation (WTO) (OECD, 2005).

Now the Chinese economy is in a state of transition with traditional State-owned enterprises (SOEs) co-existing with a growing private sector consisting of non-State-owned enterprises (non-SOEs, many are MNCs) (Gittings, 2005). After more than twenty five years of reforms in China, there has been an enormous growth in industrial output, as well as in the economy as a whole (OECD, 2005). Since 1978 China has averaged 9.4 per cent annual GDP growth, one of the highest growth rates in the world. In 1978, it accounted for less than one per cent of the world economy, and its total foreign trade was worth $ 20.6 billion. Today, it accounts for four per cent of the world economy and has foreign trade worth $ 851 billion, the third largest national total in the world. China has also attracted hundreds of billions of dollars of foreign investment and more than a trillion dollars of domestic non-public investment (Bijian, 2005).

In per capita terms, China remains a low-income developing country, ranked roughly 100th in the world. Its impact on the world economy is still limited (OECD, 2005). Yet, there has been a change from an agricultural society in 1978 into an industrial society today. In 2002 the GDP distribution among the agricultural, industrial and service sector was respectively: 15 per cent, 51 per cent and 34 per cent (Hemelryk Donald & Benewick, 2005). This means that a lot of surplus labour (with little education) needs to be transferred from the agricultural sector to the other sectors, that need better educated workers. With this aim about ten million rural Chinese migrate to urban areas each year (Bijian, 2005). As a consequence deficiencies in the skill levels of workers is one of China's major problems now. According to Xie and Wu (2001) China's economic development has been negatively influenced by the underdevelopment of its workforce in the four ways. First, labour productivity remains low, with China ranked second lowest in labour productivity among Asian countries. China's average labour productivity is only 1/10 to 1/20 of the developed countries. Second the application of science to industrial production is low. Only 15 per cent of the scientific achievements were translated into productivity improvements compared with over 50 per cent in industrialized economies. Third, product quality is low with 10 per cent of production being rejected. Finally industrial accidents are frequent with the majority of accidents the result of inadequate training and job skills.

In short economic reforms means growing competition for Chinese companies, a changing labour market and a need for better educated people. Efficient and effective education and training are essential to improve China's national skill level. Yet employers do not generally feel that the existing education system is addressing these changing skills needs. This means that training becomes an essential means of accommodating the shortage in skills among workers in the short run (Venter, 2003).

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Method

The literature review has been conducted by a search in international journals on (comparative) education, HRM and HRD, such as Comparative Education, Comparative Education Review, International Journal of Educational Development, Higher Education, International Journal of Human Resource Management, International Journal of Training and Development, Human Resource Development Quarterly. The results are written down on the basis of the following three themes: the Chinese education system, changes in the education system and training. Due to the lack of space only the most relevant authors are included in this paper.

The Chinese Education System

Since the Education Law of 1986 education is compulsory between 6 and 16 (9years). And policy discussions are moving to a 12 year target for compulsory education. Between age 6-12 (6 years) pupils are educated at primary school. Followed by 3 years in lower middle school (age 12-15). Between 15 and 18 (3 years) upper middle school can be attended as a preparation for university or a vocational high school. Also at the age of 15 a choice can be made for a lower form of vocational education. At the age of 18 university (age 18-24) can be entered. The undergraduate courses of higher education institutions take mostly 4 years, medical and some engineering courses last five years, and a few medical universities even offer six-year courses. College diploma courses normally last 2 or 3 years. Graduate studies may be divided into master's degree courses and doctoral studies, with the former lasting 2.5 to 3 years and the latter usually 3 years (Teng, 1995).

Education and Change

Under the reign of Mao Zedong, that started in 1949, the Chinese Communist Party (CCP) regarded education as a means to indoctrinate people with socialist ideas, thus the state exerted a tight control over educational provision (Pepper, 2000). After 1956, all private schools originally established during the republican period were converted into public schools under the leadership of the Ministry of Education of the State Council. This educational policy characterized by centralization gave the central government absolute control over financing, provision and management of education. In this period free education was provided by the state sector (Mok, 1999). In the 1980s China's open door economic policy developed, and education became a tool with which to support and facilitate economic change (Peng, 2000). This policy initiated the modernisation of Chinese education in the late 1970s and the 1980s. Meritocracy replaced selection by class background and was promoted as the way to rebuild socialism. And this meant restoration of the old two-track system in which education for the urban elite (in 'key schools') was paid by government, and the agricultural 'masses' were left to fend for them selves in village schools, that were only meant to produce competent workers, and that they supported with local money. Rural schools were characterized by low attendance, very low passing rates and often unqualified teachers (Hayhoe, 1984, Hannum, 2003). In the 1980s Deng Xiao Ping took charge of education, realising its central importance to both economic and political reconstruction. It became educational policy to produce qualified personnel for the Four Modernisations. In 1985 new goals for educational policy were announced: the structure of education was to be reformed, 9 years compulsory basic education became the aim for all students, secondary education was to be diversified to include more technical and vocational schools, stronger links between education and 'the real world' were encouraged, the principle of training before employment was introduced, teacher education was to be a top priority and institutions of higher education were to be more autonomous (Potts, 2003; Ashmore & Zen, 1997). Funding was examined to ensure that all young children could afford to take part in the primary school. The CCP initiated a decentralisation policy in education to allow local governments, local communities, individuals and other non-state actors to create more educational opportunities. Instead of solely relying upon the state's financial support, educational funding was diversified. To support this policy the state has promoted a scheme of sponsorship at three levels: village, township and country. Under this scheme the state does not bear more than one- third of the expenditure involved in the construction of school buildings and purchasing of school furniture. What the state is responsible for is teachers' salaries. Only teachers that work for *minban* (people-run) schools are paid by their school authorities. In the *1990s* the CCP has shifted the responsibility from the state further to individuals and families by the introduction of a 'fee paying' principle in education. In the 1990s the state's financial contribution to total educational spending has been about 55 per cent, implying that governments and educational practitioners at the local level have to secure the remaining 45 per cent of educational funds by their own means. Compared to the Mao area where the state held full financial responsibility for education this means a massive reduction in state subsidy to education (Mok, 1999). China's public expenditure on education as a percentage of the gross national product (GNP) is far behind the actual needs of the country's economic growth. The average rate of China's economic development has been above 7 per cent since 1979, but the public expenditure on education as a percentage of GNP has been just around 2.5 per cent in recent years, although the central government planned to

increase its educational investment to reach 4 per cent of GNP by the year 2000 (Wang, 2003). By allowing marketization and privatization in education the Chinese state has unloaded part of the provision and funding of education to other non-state actors, and the state now focuses on the role of facilitator, enabler, policy coordinator and regulator. According to Mok (2005 a,b) this does not mean that the state has retreated but that it has only changed its form of governance from interventionist to accelerationist.

A positive point of the Chinese educational system is that starting with Mao the masses have received more attention and literacy in China has grown from 20% in 1949 to 88% nowadays. Yet, many rural children drop out of education to join the substantial proportion of 10-19 year olds in the workforce. The average years of schooling a five year old child can expect in China (10 years) is very low compared with the same figure for the OECD countries (16.4 years in the year 1996-1997) (Wang, 2003).

In the last 20 years, the government has developed a national vocational education policy that has resulted in rapid development of senior middle vocational education. In 1996 three laws were created to support vocational education. Firstly the Vocational Education Law that states that a vocational education fee equal to 1.5 per cent of a workers total salary must be levied and secondly the labour reserve system, that is prepared for those who graduated from junior or senior middle school, but failed to enter higher education. People are given 1-3 years vocational education or training. After that they can gain vocational credentials. In the third place the vocational ability appraisal system and the vocational qualification certificate system have been implemented. Nearly 50 million people joined this appraisal in 1998 and half of them passed the appraisal and gained the corresponding qualification. In 1997, 56 per cent of the students choose for vocational education. This is a remarkable change. It means that more students are willing to undertake vocational education than general education (Wang, 2003). Another development is that in the mid-1990s a lot of private vocational and technical schools, run by individuals or large companies, were established as a reaction upon encouragement of the Chinese government in the beginning of the 1990s. These private vocational schools provide specialized knowledge and skills training according to the special requirements of their partner companies and most of their graduates go working in these companies. Since the 1980s government has put great efforts in rural vocational education reforms to improve farmers' lives and economic prospects. Towards this aim many rural vocational schools have revised their teaching plans by adding specialties focusing for example on farm production and aquaculture. Another reform effort is adding one year vocational training to regular secondary education. In this way the needs are met of the majority of rural students who cannot study towards a high school diploma or a university degree for various reasons, especially those who have financial difficulties and need to work as early as they can. Urban educational reforms include changing the running of urban vocational and technical schools from government to local educational authorities, various trades, enterprises and people who run the schools in line with government regulations. And now that professional qualifications have become the point of urban vocational schools, many schools on their own initiative have adjusted their programs and curriculum, norms and methods to meet relevant requirements of industry and business (Wang, 2003).

Regular higher education in China, that is government funded, has experienced two main development stages interrupted by the ten years of the Cultural Revolution, when unified university entrance examinations were cancelled, and political movement replaced regular teaching and studying. Between the establishment of the PRC in 1949 and the end of the Cultural Revolution in 1976, the state took over control of all the higher education institutions and drew up five development plans aimed at adapting higher education to the centrally planned economic system. During this period China had 598 universities, all of which were financed by the government. Since Deng Xiaoping's reform policies and the opening up to the outside world of China, higher education expanded enormously. By the end of 1999 there were 1,071 regular institutions of higher education with 4,134,200 students (Wang, 2003). Because higher education demand will still exceed supply in the future, the government began in the mid-1990s to allow and encourage private and others sources, including foreign investors, to run post-secondary education institutions. By 2000, 1,200 private higher education institutions had been established in China, enrolling 981,700 students. Privately funded universities and colleges are guided by the government educational policies and regulations. Among all the private higher education institutions only 22 are able to issue credentials recognized by the government, but they have no difficulty recruiting students and they develop themselves fast (Wang, 2003). The economic reforms were also followed by structural reforms in tertiary education such as the development of many Master's degree programs and the merging of universities (Mok, 2005a,b). In the 1990s it has become government policy as a part of the educational reforms at tertiary level to enhance the quality of education by introducing competition among universities. Based on quantifiable, objective criteria such as criteria on staffing, buildings, libraries, laboratories, research output, funds, the proportion of graduates getting employment etc. universities can be qualified as top institutions. Top universities attract more funding from the central government (Mok, 1999).

In post-Deng's China (after 1997), president Jiang Zemin (1997-2005) has put forward a policy of 'developing the country by science and education'. Under Jiang Zemin's leadership the educational structure has further been optimized for cost-effectiveness and there has been more attention for rising the quality of

education. The objective of the reforms has been to make educational development responsive to the needs of economic and social development in China (Wang, 2003).

Many authors criticize Chinese educational policy (Andreas, 2004, Ashmore & Zen, 1997, Potts, 2003; Venter, 2003; Hannum, 2003; Liu, 2004, Pepper, 2000, Wang, 2003, Warner, 2004). They say that educational quality is much too low, a large proportion of the teachers remain untrained or unqualified and teachers are poorly treated; the education system, as a whole is under funded and many schools have poor buildings and poor teaching conditions; these problems may adversely affect teachers' morale; further there are huge regional differences in the amount and distribution of local taxes and the extend to which the education system is providing the skills needed in a marketised economy. The ideological and historical context has a huge influence on the evolution of the educational system because of the entrenched assumptions on which societal perceptions and expectations of education are founded. Critics of the education system also have complained that the nature of the system and its heavy reliance on examinations burdens children in primary and secondary school with an excessive workload and unrealistic expectations of developing themselves in an all-round way and a curriculum content that is narrowed to skills that can easily be tested. In vocational and technical education there is no effective mechanism to promote enrolment and graduation in a well coordinated fashion. In higher education rationalization has yet to occur in the geographical location and educational structure of higher educational institutions. Another point is that the quality of teaching and studying in institutions of higher education is not as good as that of primary and secondary education. Reasons are students that are exhausted after finishing the entrance examinations, when admitted to a university students will graduate, because elimination on grounds of bad performance is not done and the quality of teaching and studying is low because of the lack of basic resources such as strong faculty members, well stocked libraries, advanced equipment and instruments for teaching and research. Further the number of institutes for higher education is small. Every year China sees more then 110 million regular secondary school students graduate. Only two million graduates can be admitted to post-secondary education institutions because of shortage of universities.

A very different point is that the education system in China is in the unique position of facing the demands of two systems, those stemming from organisations operating with the legacy of a command and control economy (SOEs) and those demands of organisations facing international competition in the growing market economy (non-SEOs). The current education system seems better able to meet the needs of the more traditional industries oriented to the Chinese market. Modern growth industries and organisations operating in highly competitive, rapidly changing global markets seem less well served by the education system (Venter, 2003).

Training in China

China's economic transition has created new industrial labour relationships, restructured the labour market and influenced education and training in firms (Ding, Goodall & Warner, 2002, Zhu & Nyland, 2004). Before 1977 China's structure of state power involved the Party (CCP), the government and production management. The Party through the government controlled the organization of production. Directives on labour and quotas on production and supplies were administrated from the top down to the factory floor. Graduates of schools were assigned a lifelong job in a particular work unit. Decisions about an employers education and training were entirely a matter between the government and the work unit. As a consequence of China's 'open door' policy and economic transition to a market economy the state had to give up some power so that firms can act independently to achieve efficiency. Nowadays firms can be formed in a variety of ownership structures and they can control their own daily operations. Employees have been freed from lifelong job assignments in a work unit. They now have the right to change a job and make decisions about their personal development. These changes are transforming the state-controlled production units into a firm-controlled internal labour market as well as an external labor market, accessible to both employees and firms (King & Bu, 2005). Although there has been created an external and an internal labour market, the external labour market is dominated by low skilled general workers (*laodongli*) and only a small part consists of professional personnel (*rencai*). This forces non-state owned organizations, (non-SEOs) to train and develop higher skills within their company because these are not available in the labour market. These circumstances have led to the development of internal markets in non-SEOs, that train employees as part of a career (Benson & Zhu, 2002).

Xiao and Tsang (2004) did research into job-related training and development in the special economic zone 'Shenzen' that was established in 1980. They collected data over the period 1991-1996 via a survey that was filled out by 3.475 employees in 76 firms from Shenzen. The results indicate that non-state controlled training and development systems have evolved to respond to the demands of internal markets of firms, as well as to learning needs arising from personal occupational aspirations and needs. Employees in state-owned firms (SEOs) and in those with investment from outside mainland China non-SEOs have significantly more opportunities to take part in job-related training and development than employees from small firms. Changes in the workplace initiate schooling needs. Twelve years of education seems to be the condition needed for pursuing continuing training in the workplace. Xiao and Tsang (2004) found a clear division between higher educated and

least educated and non-skilled employees. The first group participated in training (73%) and development whereas the last two groups did not (27%). These are people who are least involved in transitions in the workplace, are at the bottom of the occupational hierarchy, and are hired in more marginal sectors. Their inability to upgrade their skills and the large number of low-skilled labourers migrating from rural areas will in the future hinder the development of a competent workforce.

Ng and Siu (2004) compared attitudes to training in a study of 224 SOEs, and 261 non-SOEs, from the manufacturing sector in Shanghai. They conclude that training is perceived to be relatively important in non-SOEs and that SEOs provide limited training to their employees. Training in these enterprises has three objectives: enhancing working relationships, tackling skill deficiencies and skill development. SOEs tend to focus more on skill development while non-SEOs emphasize both enhancing working relationships and skills improvement. Ng and Siu further observe that there is only a small gap between the expectations of training and the perceived achievement of training objectives. In another study in 800 companies in the Shanghai manufacturing industries in 2000, Ng (2005) found a high incidence of training. Training was intended to remedy skills deficiencies, rather than enhance productivity. The chance of receiving training increased with age. Job characteristics of individuals (experience, education, marital status, firm size, industrial sector) and firm background were found to play key roles in determining training provision. Workers who received off-the-job training were less likely to receive on-the-job training, while those who received on-the-job training were neither more nor less likely to have received off-the job training. However, a complementary relationship was found between receiving informal training and receiving on-the-job or off-the-job training. Individuals working in SEOs were generally less likely to receive training of any kind. Earnings differentials were not found to correlate with different types of training.

Many organisations (particularly non-SEOs) are moving away from the traditional 'iron rice bowel' (*tie fan wan*) practices once prevalent throughout Chinese industry. This iron rice bowel model was characterized by state ownership by companies, the central allocation of resources including labour, jobs for life, egalitarian pay and the provision of company accommodation and welfare (Warner 1996a,b, 2004). In many state-owned enterprises, SOEs, quality and profit were not major concerns. These organisations were often overstaffed, with egalitarian salaries and rewards and few incentives to encourage high levels of worker performance. As a consequence SOEs were often highly inefficient and unproductive (Warner, 2004). Many new resource rich enterprises such as large, foreign funded or international organisations (often non-SOEs such as MNCs), that have more autonomy and resources, are able to use elements of the 'iron rice bowel' practices' such as housing assistance, dental insurance or employer funded social assistance, as incentives and as deliberate strategies to attract and retain key staff thus increasing the organisation's ability to recruit 'high potential' highly educated personnel (Ding, Fields & Akhtar, 1997). Shen & Edwards (2004) conclude from a study of 10 Chinese multinational enterprises (MNEs), that even though recruitment and selection policies and practices are more progressive in adopting modern HRM concepts than is the case in domestic Chinese firms, current practices are still divergent from those of major Western MNEs. Goodall & Warner (1997) examined if HRM practices in eight SOEs and in seven non-SEOs differed, and if the HRM practices in the seven non-SEOs differed from the traditional iron rice-bowl practices. They conclude that the degree and extend to which non-SEOs modify traditional HRM practices varies widely. They find strong evidence of institutional and organizational continuity in traditional iron rice-bowl practices in both SEOs and non-SEOs. Ding, Ge and Warner (2004) reviewed the process of organizational governance and HRM in China, as property-right reforms impact on non-state firms, and particularly focused on Township and Village Enterprises (TVEs). They did in-depth case studies of twenty TVEs located in southern China. Ding et al. conclude that as a company moves up to governance of clearer property rights (ranging from responsibility system, lease contracting, joint ventures and joint-stock companies to public listing) it adopts more market oriented HRM functions, including recruitment, training, rewards and performance evaluation. Farley, Hoenig & Yang (2004) have found, that the longer a (foreign)company operates in China, the more it tailors its HRM policies to the needs of local managers and employees. Zhu & Nyland (2004) observed (in 5 companies with diverse ownership structures), that marketization and globalization are forcing the PRC to construct a social protection system compatible with an open economic regime. Yet many employers are evading their social protection responsibilities and the state has consequently been compelled to institute countervailing regulations to enforce employer compliance.

Wang (2004) has showed in his study of 1,232 industrial employees in seven companies, three SEOs and four non-SEOs, that organizational commitment of industrial employees in SEOs was characterized by high passive continuance commitment (they either recognize the cost associated with leaving the organization or have to stay with the company due to a lack of job alternatives) and low value commitment (an employee's feelings of value congruence with the company and a willingness to exert considerable effort on behalf of the company), and in non-SEOs by low active continuance commitment (employees develop an attachment to the company because of the benefits which would be forgone upon departure) and value congruence between employers and employees. Wang concludes that to foster commitment levels of Chinese employees HRM strategies should vary according to the form of economic ownership (SEO vs. non-SEO). In SEOs HRM

strategies that aim at fostering value commitment, by stressing simultaneous realization of company goals and individual goals are preferred. And in non-SEOs HRM strategies that foster continuance commitment are preferred. For example through improving staff retention by stressing fair (equal) treatment of all levels of employees, building on traditional Chinese cultural values such as loyalty and the development of mutual beneficial relationships.

As a consequence of the political developments in China unemployment surfaced in the late 1970s when tens of thousands of people in their twenties and early thirties returned to the cities from the countryside. These were 'urblings', city youth, who had spent much of their life since the age of 17 working in remote rural areas as part of the management of the Cultural Revolution. Their impact on employment figures were, however minimal in comparison with the influx of migrant peasants which they foreshadowed. Further the economic developments result in surplus labour, because the state-owned enterprises (SEO) sector needs to lay of significant numbers of workers if China is to meet its 2005 commitments under the WTO agreement (Price & Fang, 2002). Some of this short-term pain is being re-directed to the private sector. The policy of "holding onto the big ones but letting the little ones go" ensures that only strategic, larger enterprises are kept under the wing of total state ownership. State workers (of SEOs) that were part of the labour aristocracy in the MAO era are now being confronted with mismanagement, corrupt activities of management, low incomes and insecure jobs, their social status is declining, and they experience themselves as the 'underclass of labour' (Mok, Wong & Lee, 2002). Unofficial estimates suggest a figure of over 10 per cent urban joblessness (Warner, 2004). Women workers and older workers are particularly disadvantaged by the likelihood of unemployment. Over half of newly laid-off workers are women, although they make up only one-third of the workforce. This adds to an already weak position for women, as only 38 per cent were working for wages in 2002. They are further challenged by the illegal cheap labour on hand from poorer regions (Hemelryk Donald & Benewick, 2005). Owing to the weaknesses of the social security system and the long lasting dependence of older workers, with little education, and age discrimination in non-SEOs, re-employment of laid-off older state workers is not easy. Many older state workers feel betrayed by the Communist Party (Mok et al. 2002). The number of workers that is re-employed, has been getting worse. The official number has fallen from 50 per cent in 1998 to under 31 per cent in 2002 (Wang, 2004). Price & Fang (2002) suggest, based on their research of 2,412 laid-off Chinese workers, different emphasis in human resource policies. They identify three different sub-groups of unemployed workers in their sample 1) 'the survivors', more confident and better educated workers, 2) 'the worried young', distressed younger workers with few coping resources and 3) 'the discouraged old', older workers with less education looking towards retirement. A human resource policy for the 'survivors' would require little intervention, such policy for 'the discouraged old' should focus on retirement and a human resource policy for 'the worried young' should offer opportunities for the development of job-search skills and opportunities to take part in training.

Conclusions and Recommendations

Positive steps of action that have been taken by the government in the areas of education and training are first the substantial promotion of preemployment vocational education and training through training schools (4400 schools), employment training centres (2700 training centres), and business and community training centres (42.000 centres). At the present time national training capacity has reached 34 million people per year. Second, higher education has been expanded in an attempt to improve the quality of human resources. The number of universities and students increased by more than 100 per cent between 1995 and 2000. In 2000 there were more than one thousand universities that recruited just under four million students. Third, grassroots-oriented and widespread on-the-job training and continuing lifelong learning have been encouraged. Between 1996 and 2000 over 40 million people obtained such training. At the same time a large number of internal migrants moved from rural areas to the city, and about 30 million peasants gained various types of training for their jobs in urban areas (Benson & Zhu, 2002). And as a result illiteracy dropped over 9 per cent in the period from 1990 to 2001 and is now under 7 per cent. In addition, the percentage of people with a university degree has increased from 1.4 per cent in 1990 to 3.6 per cent in 2001. Sixty-one million people now have completed middle or secondary education, and the number of qualified technicians is now 38 million (Benson & Zhu, 2002).

Yet education and training in China are still facing many problems (Benson & Zhu, 2002, Jinyu, 2005, Ng, 2005, Shen & Edwards, 2004, Xiao & Tsang, 2004, Xie & Wu, 2001, Yang, Zhang & Zhang, 2004). With China's entry in the WTO, HRD must be given a higher priority if its enterprises are to improve their productivity and ability to compete on world markets. The Chinese education system is still not able to provide individuals with appropriate training in skills demanded by the labour market. The quantity and quality of teaching personnel, for example, is too low compared with demands. There is instability and serious dropout of teaching personnel. The problem exists at all levels and in all kinds of education, but is especially serious in vocational education institutions. This means that the burden op skill upgrading and thus training cost, must be borne by companies and their workers. This hinders the long-term competitiveness of companies in the global

marketplace. This is why a clear public policy in the area of training and development is necessary and more has to be done to encourage vocational training in companies. Also the coordination and harmony between different stages and different types of training and education should be improved. China needs to raise its investment in training and development. There is no system, specially for enterprise training and development investment in China. For example the technical schools have existed for 40 years, but there was no special fund for them. Financial resources depend on the unstable non-business income. In company training and development is done in a casual way. There are few companies who can handle training and development activities systematically and efficiently since the staff have no or little training in HRD, most companies have no HRD department, and HRD is not being perceived as a strategic tool. Further training and development sciences and technologies need to be more developed. Because underdevelopment causes a lack of qualified trainers and the failure of educational contents and methodology to meet the diverse needs of training and development. Also microeconomic reform is necessary in the state-owned sector. SOEs need to be freed from the constraints on wages and recruitment, corporate governance structures will need to be revised and, a market-oriented social security system, that enables employees to move more safely from SOEs to a non-SEOs should be developed. This will allow these enterprises to compete with non state-sector enterprises. Further, the entry and expansion of non-SEOs in China is limited by the lack of human resources and the stringent resident registration rules. A revitalized state-owned sector will provide more incentive for non-SEOs to develop their own human resources, which, in turn, will lead to more investment by foreign enterprises. Another challenge is to upgrade the skills of the many low-skilled labourers migrating from rural areas to special economic zones where high skilled people are needed. These people are often not (getting the chance of) participating in training offered by non-SEOs. Government subsidies are to small and private/collective firms and training and development programs offered by NGOs can definitely help to make training and development opportunities available to the low skilled part of the Chinese population.

Future educational research in China should concentrate on the factors that influence low school enrolment and dropout, because research shows that a minimum of twelve years of education is essential for pursuing continuing training in the workplace. Also further research into factors that influence teacher commitment and morale is needed, because this is much too low. Another area for research is the role that the examination system plays in the kind of skills (the easy to test skills!) that are obtained in school. Essential is of course research into educational policy and policy in the area of training of the central Chinese Government and its influence on groups that receive too little education and/or training. Research in the area of training and other HRM instruments should pay attention to factors that prevent SEOs to train and develop their employees, the factors that prevent SEOs from applying new HRM instruments, and the factors that further improve the commitment of excellent state-workers in SEOs, so that they can better compete with non-SEOs. Further research into the factors that influence reemployment of state-workers and women is important, because joblessness is growing. And a very important area is research into the question how to raise the educational level and participation in training of migrants and low educated workers.

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